





# ***Educating The Acquisition Workforce***



## ***The Defense Acquisition University***



***COL James R. Moran, US Army  
Commandant, DSMC & Vice President, DAU***

# **Simulation Based Acquisition Acquisition Policy Documents**

## **DoD Directive 5000.1**

**Program managers *shall plan and budget for SBA ...  
to reduce the time, resources, and risk...***

## **DoD Instruction 5000.2**

***SBA shall be part of...  
the test and evaluation master plan...***

## **DoD 5000.2 Regulation**

***... use SBA throughout the product life cycle... PM  
shall use SBA and M&S during system design, system  
T&E, and system modification and upgrade...***



# The Defense Acquisition University M&S and SBA Education

**24 include M&S and SBA**

**81 Courses  
in 13 fields**

**A doubling of courses  
with M&S, since 1997**

## ***Examples:***

***Advanced Program Management Course (14 weeks)  
- with embedded 12-week SBA Exercise***

***5 Executive Courses***

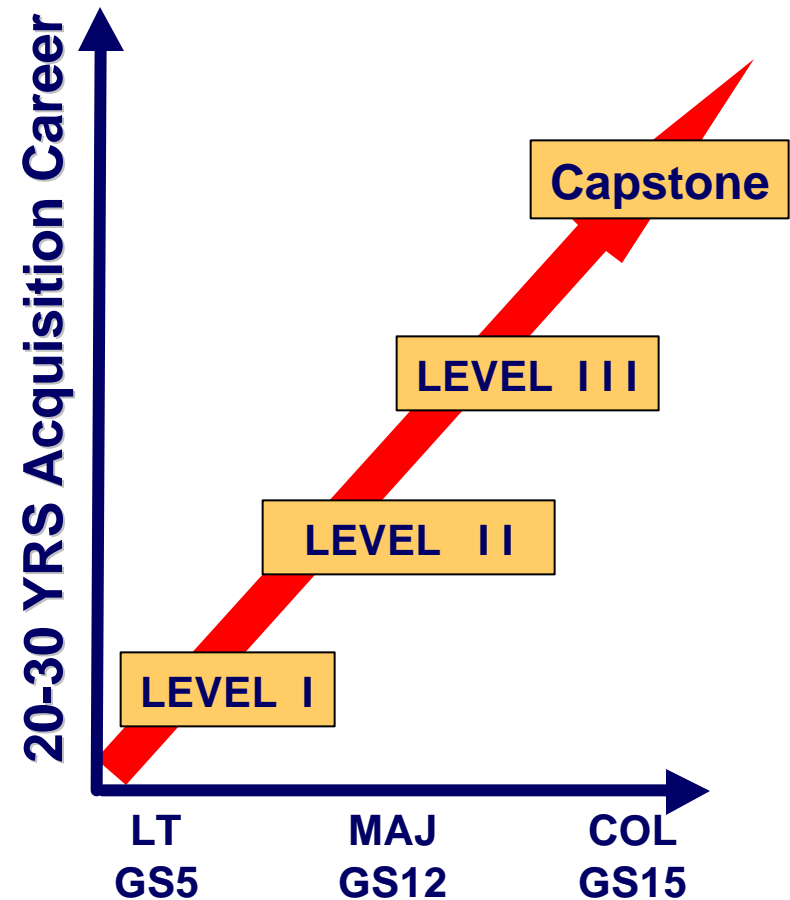
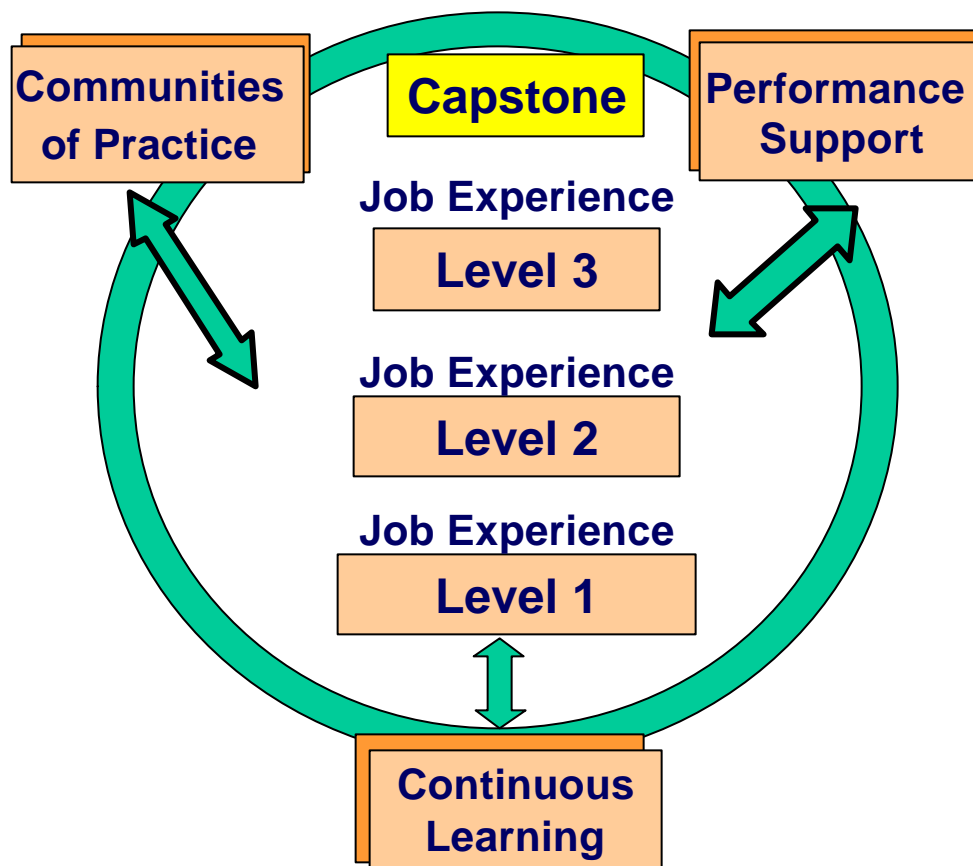
***1 Executive PM Course (mandatory for PMs/DPMs)***

***1 Advanced Systems Engineering Course***

***2 Information Technology Courses (IRMC)***

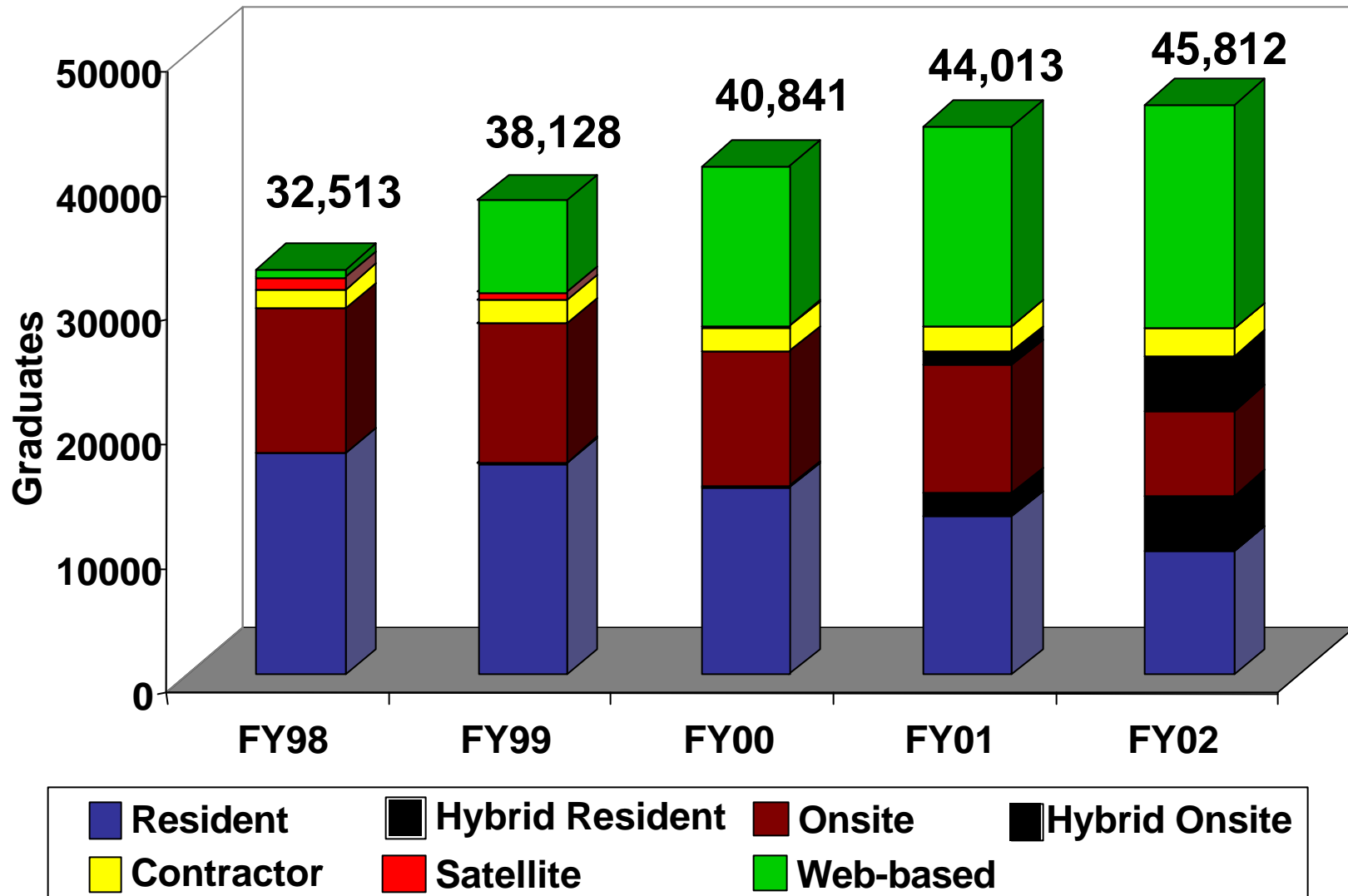


# The Learning Construct

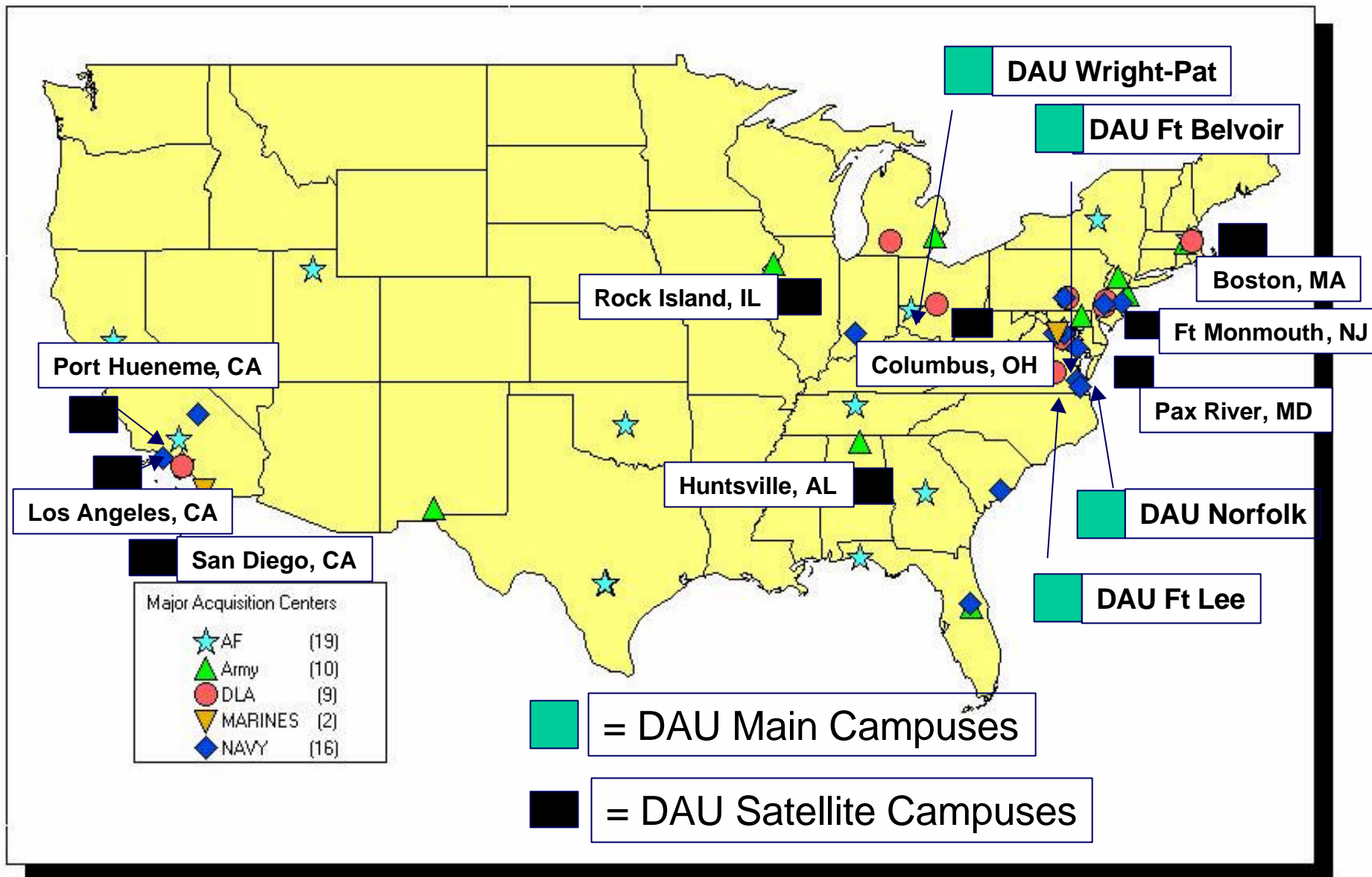


# DAU Graduates

(FY01-02 are projected)



# Major Acquisition Workforce Centers





# SBA EXERCISE



**ORD & Contract  
Unmanned  
Vehicle**

**Total  
Ownership  
Costs**

**15 year  
O&S**

**100 vehicle  
production**

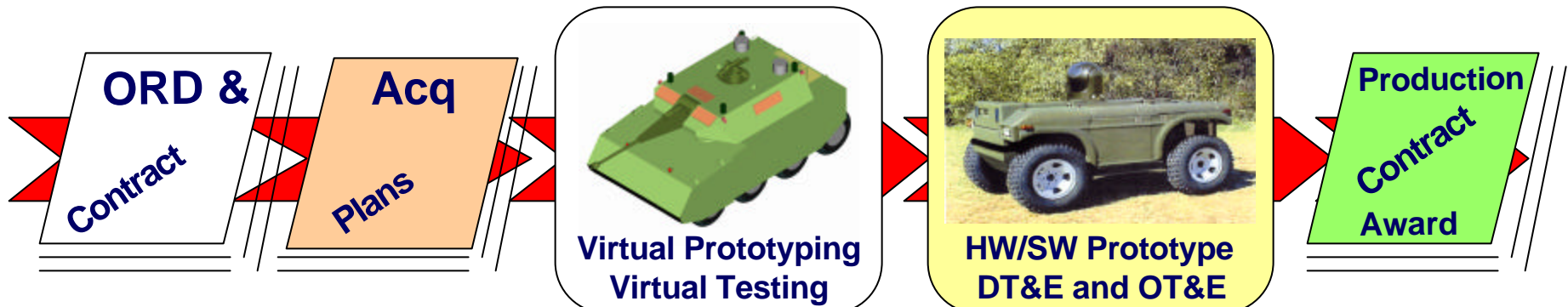
## **Concurrent & collaborative**

- 5 Missions
- Producibility
- Maintainability
- Personnel Costs
- Development Costs
- Unit Production Cost
- O&S Costs
- Disposal Costs

**TOTAL  
OWNERSHIP  
COSTS**

## **Integrated Digital Environment**

**Report Submission - Networked Database - Risk Models - Cost Models  
Simulation across workstations - Virtual Prototyping - Virtual Testing**



# Advanced Program Management Course SBA Simulation

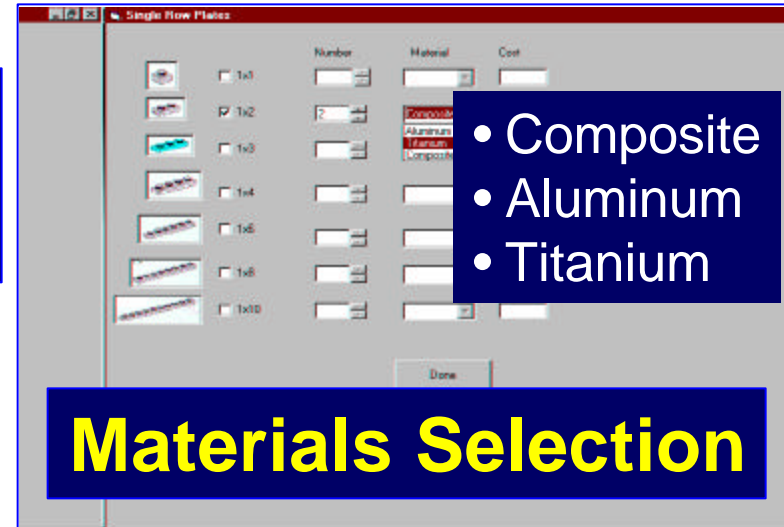
## Design - Total Ownership Cost - Unit Cost - Virtual Testing



The screenshot shows the 'Start' window of the AUGV SBA Package. It asks 'What would you like to do?' and provides three options: 'Conduct System Level Trades of existing designs', 'Update your existing design', and 'Create a new design starting with a blank template'. A small image of a vehicle is visible on the right.

**Tracks - Wheels  
FWD-RWD-4WD  
Steering...**

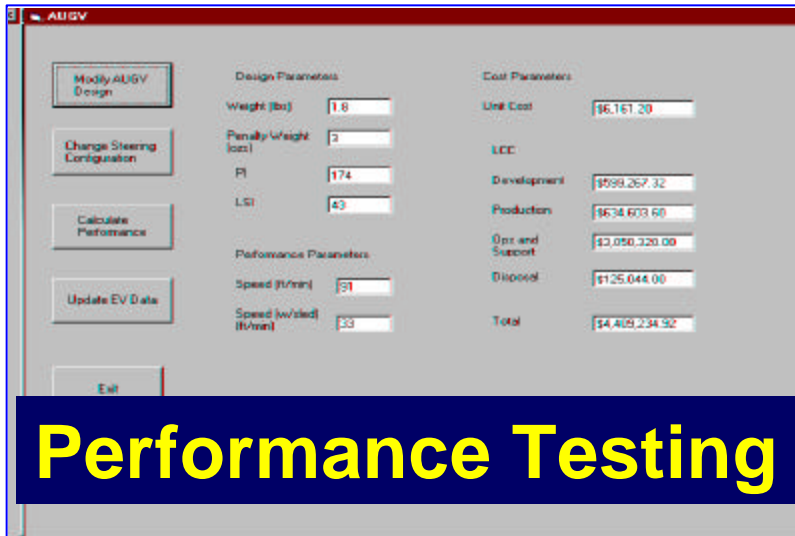
**System Level Trades**



The screenshot shows the 'Single Row Plates' window. It displays a table with columns for 'Number', 'Material', and 'Cost'. The 'Material' column lists 'Composite', 'Aluminum', 'Titanium', and 'Carbon Fiber'. A blue box highlights the material selection options.

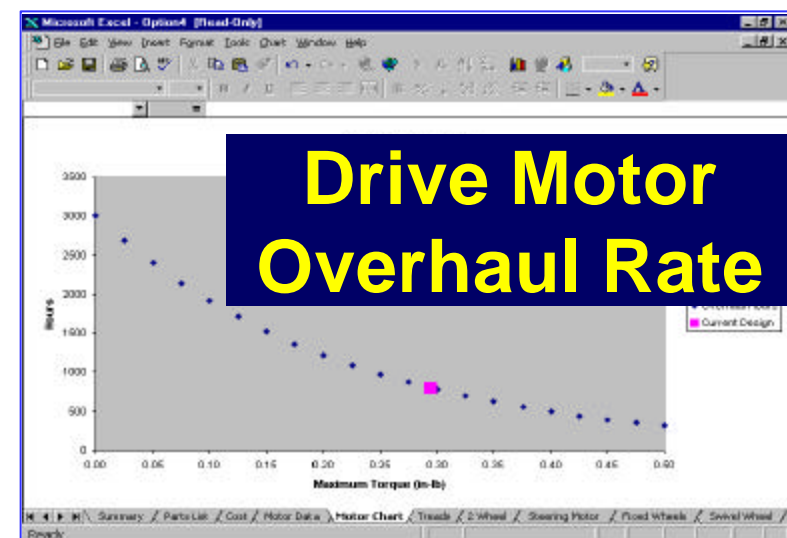
- Composite
- Aluminum
- Titanium

**Materials Selection**



The screenshot shows the 'AUGV' window with 'Design Parameters' and 'Cost Parameters' sections. The 'Design Parameters' section includes fields for Weight (lb), Penalty/Weight (oz), R, LSI, Speed (ft/min), and Speed (in/led) (ft/min). The 'Cost Parameters' section includes fields for Unit Cost, LCC, Development, Production, Opn and Support, Disposal, and Total.

**Performance Testing**



# Advanced Program Management Course SBA Simulation

## Design - Total Ownership Cost - Unit Cost - Virtual Testing

Microsoft Excel - Option4 [Read-Only]

**Personnel Costs**

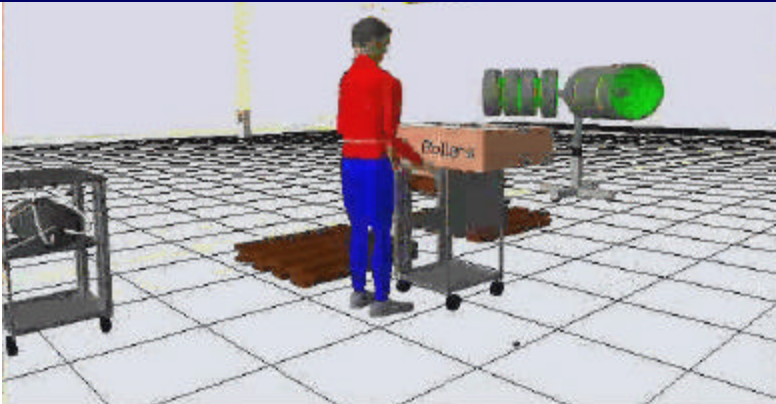
	A	B	C
11	Total		\$4,409,234.92
12			
13			
14	# Units	100	
15			
16	Engineering Rate	\$450.00	
17	Manufacturing (Prototype)	\$350.00	
18	Producibility/Supportability	\$275.00	
19	Test and Evaluation	\$500.00	
20	Program Management	\$375.00	
21	Data Management	\$200.00	
22			

Microsoft Excel - Option4 [Read-Only]

	J	K	L	M	N	O	P	Q	R	S	
	Part	Total Unit	Replacement/Overhauls	Wear Out Mode	Calendar Years	Hours	Actions	Cost	Supply Stock Items	System Disposal Cost	Total Select
2	\$1,000.00		Time	5							0
3	\$1,500.00	\$1,500.00	Time	5							1
4	\$25.00		Usage			20	2	\$1,500.00	1	-\$200.00	0
5	\$100.00		Usage			1000	12	\$2,000.00	1	\$730.00	6
6	\$1,000.00	\$2,000.00	Usage			800	15	\$15,000.00	1	\$300.00	2
7	\$1,000.00		Usage			2500					0
8	\$100.00		Usage			2000					0
9	\$0.00	\$0.00	Usage			1000	12	\$0.00	1	\$0.00	1
10	\$25.00	\$50.00	Time	5			2	\$100.00	1	-\$4.00	2
11	\$100.00		Time	5							0
12			Time								0
13			Time								0
14			Time								0
15			Time								0
16			Time								0
17	\$7.20	\$14.40	Time	15							2
18			Time								0
19			Time								0
20	\$4.80	\$9.60	Time	15							2
21			Time								0
22	\$14.40	\$28.80	Time	15							2
23	\$19.20	\$38.40	Time	15							2
24			Time								0

Analyses of Cost Drivers.

## Logistics Assessment



## Producibility



## Design - Total Ownership Cost - Unit Cost - Virtual Testing

**Microsoft Excel - Option4**

File Edit View Insert Format Tools Data Window Help

Arial 10 B I U

F22 =

**AUGV Design, Performance & Cost Model**

The AUGV software package was designed for APMC students to conduct the Integrated APMC Project. The package is an integrated Modeling and Simulation package designed to demonstrate the value of Simulation Based Acquisition

**Design Parameters**

Weight (lbs)	1.8
Weight Penalty (oz)	3
PI	174
LSI	43
Assembly (mins)	3.3

**Performance Parameters**

Configuration	4
Speed (ft/min)	91.3
Speed w/sled (ft/min)	32.8
Distance (ft/revolution)	0.52

**Unit Cost**

**Cost Parameters**

Weapon System Unit Cost	\$6,161
-------------------------	---------

**LCC**

Development	\$599,267
Production	\$634,604
O&S	\$3,050,320
Disposal	\$125,044
Total	\$4,409,235

**Total Ownership Costs**

# Available DoD M&S Education

## DoD Modeling & Simulation Education Working Group

**Modeling and Simulation  
Education initiative**

**Executive Council for Modeling and Simulation**  
*O-8/SES reps from across DoD*



## CONTINUING EDUCATION

### OSD & DAU

6 M&S  
Courses  
(3hrs - 5 days)  
  
24 Acquisition  
Courses w/M&S

### ARMY

8 Courses  
involving M&S  
including  
War/Staff  
Colleges  
and  
West Point

### AIR FORCE

15  
experiential  
operational  
simulations  
&  
AF Institute  
of Technology,  
War & Staff  
Colleges

### NAVY

Various  
at  
Naval  
Postgraduate  
School  
&  
War and  
Staff  
Colleges

### MARINES

Access  
to all  
Navy  
activities  
and  
a 1-day  
SBA  
Workshop

**DoD M&S Course Summary** <http://www.education.dmsso.mil/msewg.asp>

# In closing,

- **Simulation-Based Acquisition is:**
  - DoD policy to couple with IPPD to accelerate acquisition.
- **DAU is applying the SBA principles within its education**
  - Within the current Advanced PM Course
  - Within Selected Career Field courses
  - Being developed in the new PMOC & APMC Courses

- **Non-DAU Courses provide a source for expanded M&S education on a continuing basis**
- **DAU is working with other institutions to leverage acquisition & M&S education together**
- **More M&S / SBA & acquisition information:**



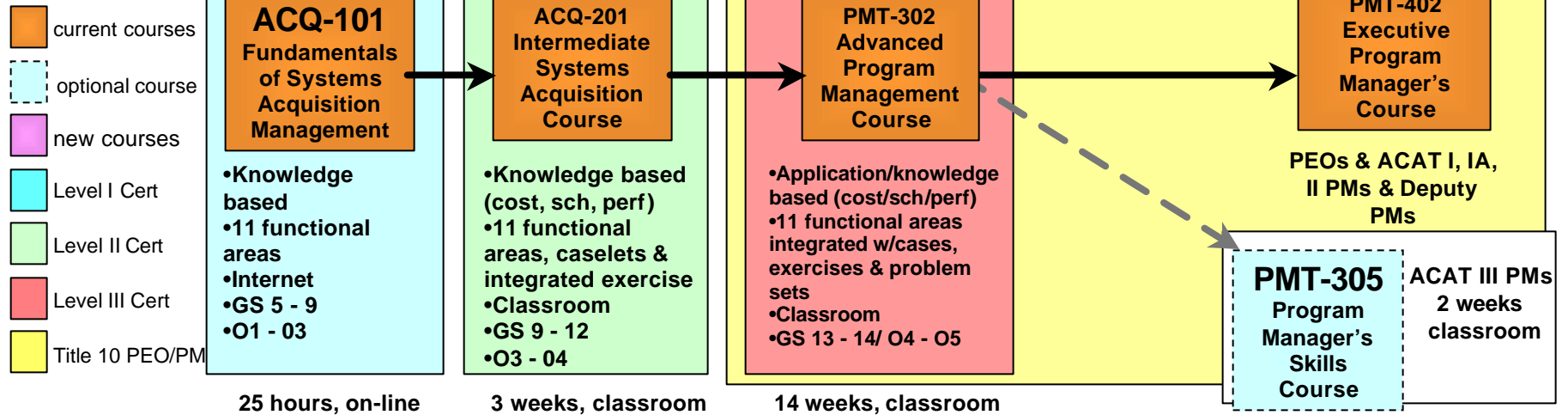
**Acquisition Support Center - <http://center.dsmc.dsm.mil>**



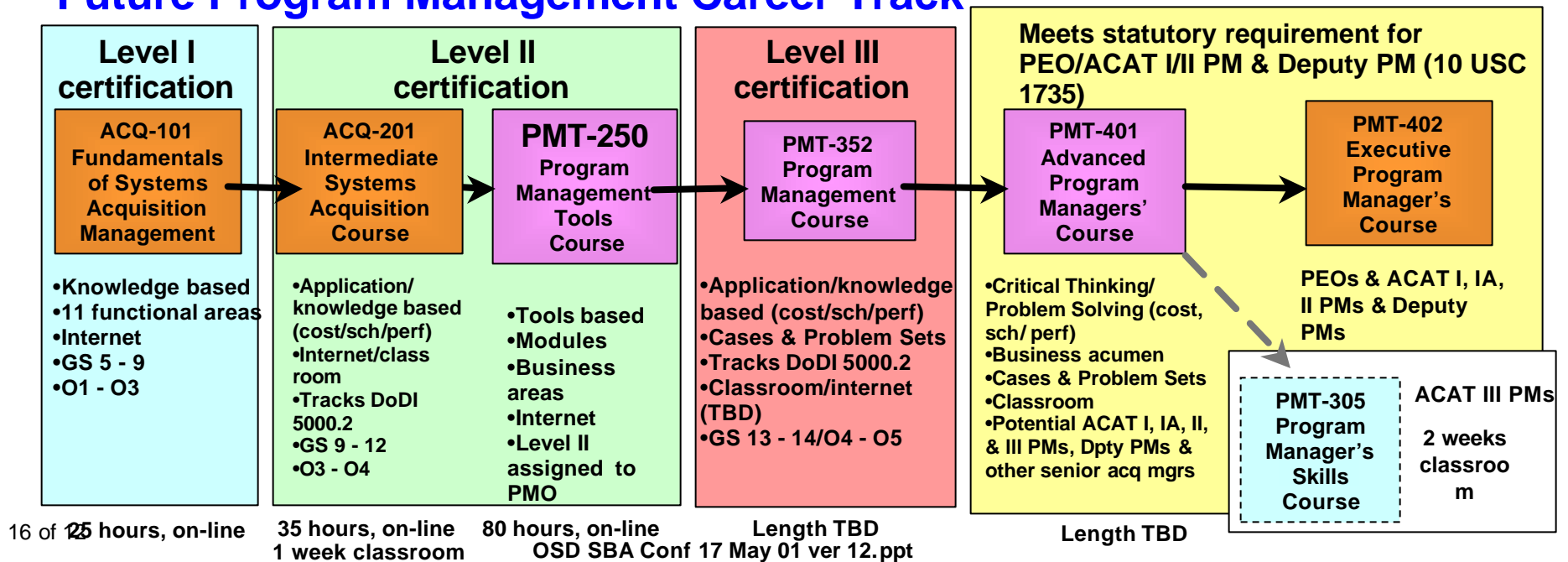
# BACKUP

# Current Program Management Career Track

cbc 08 Jan 2001

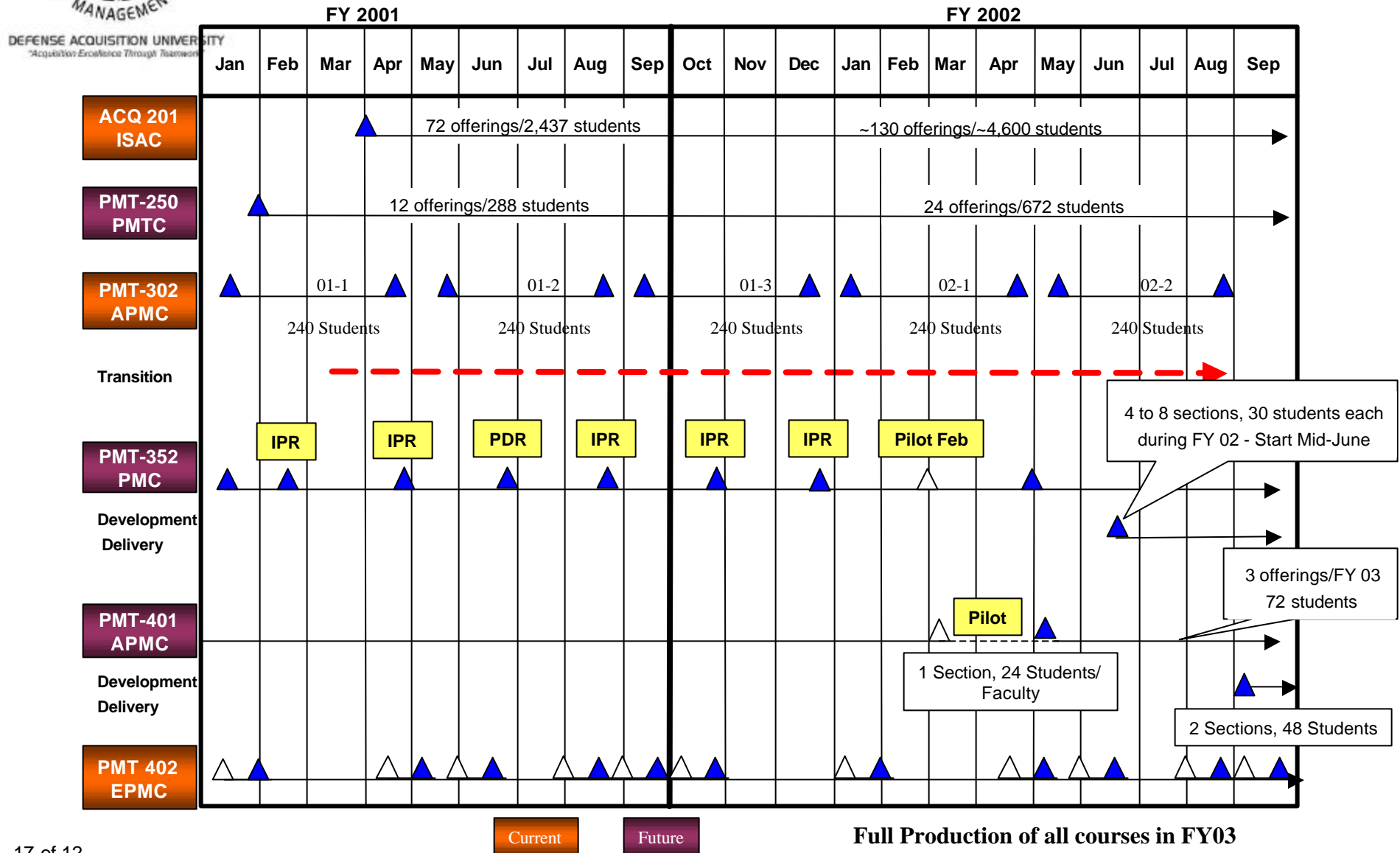


# Future Program Management Career Track



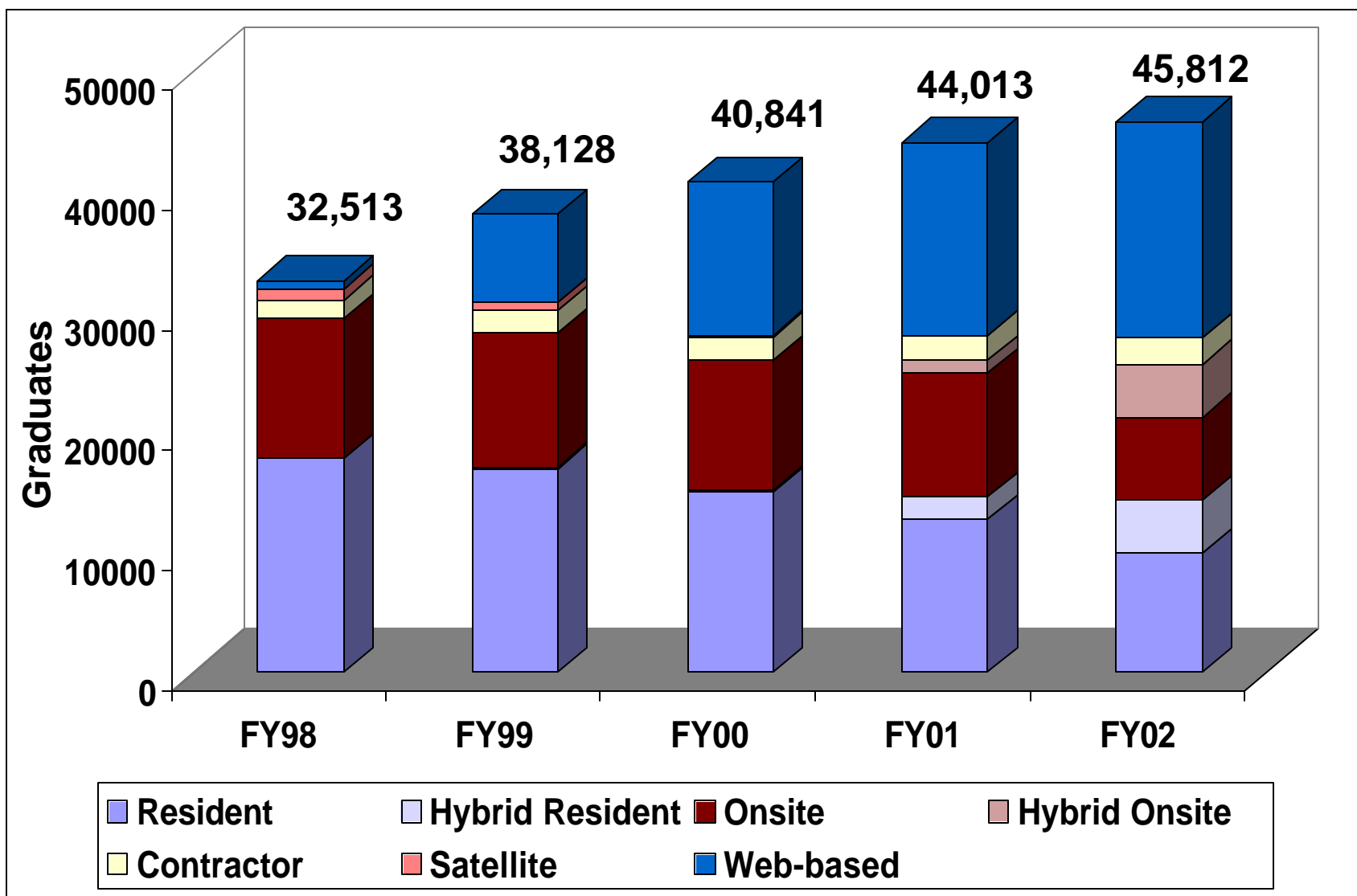


# New PM Courses FY 2001-2001

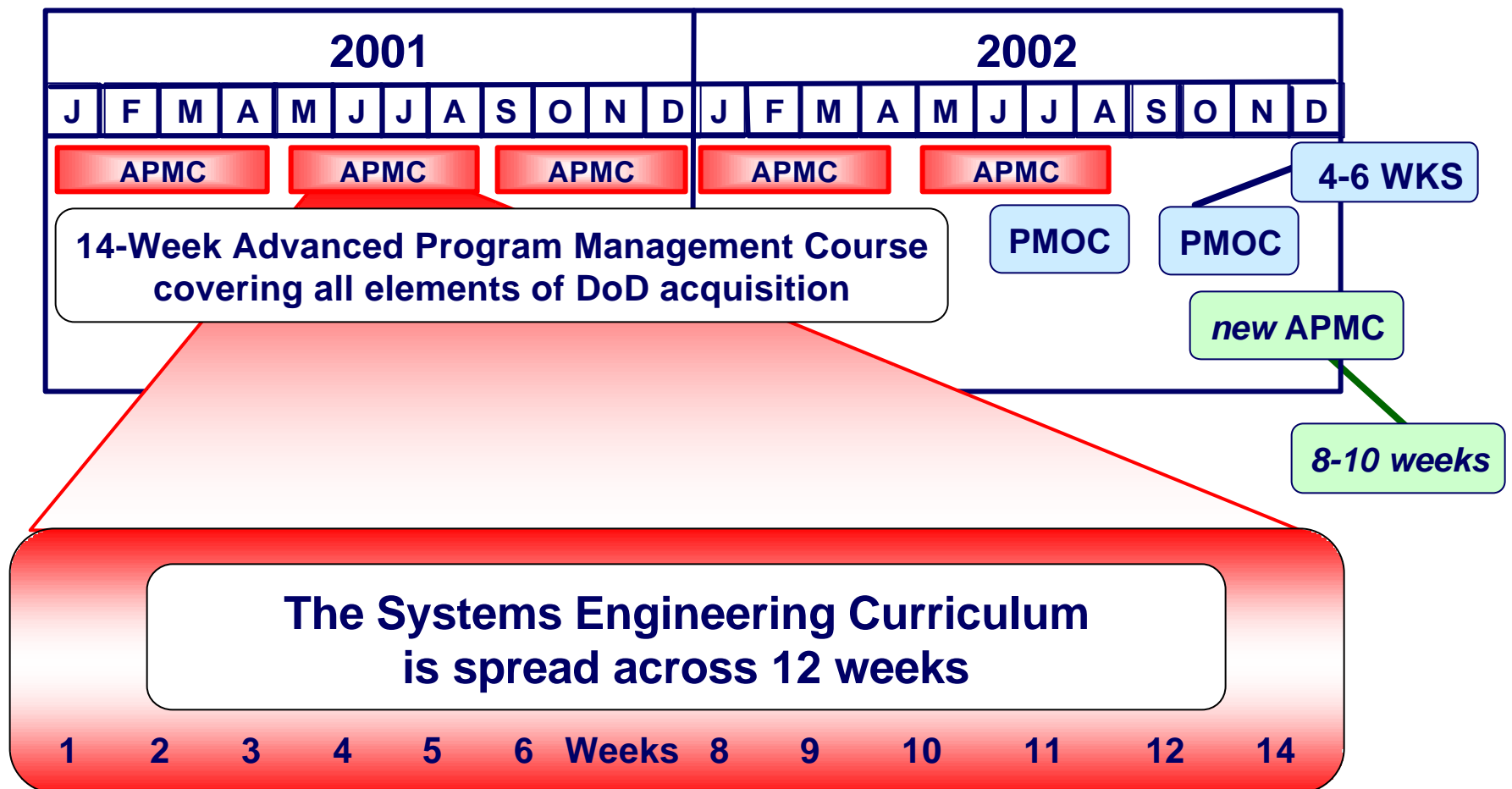


# DAU Graduates

(FY01-02 are projected)



# The Advanced Program Management Course is required by Congress for all DoD Program Managers



**PMOC- new Program Management Office Course (Level III Certification)**  
**APMC + Executive PMC Meets PM Requirement in 10 USC 1735**

# DAU Graduates

(FY01-02 are projected)

